

WHAT IS CLAIMED IS:

1. A slipsheet compactor comprising:
an elongate pre-compression chamber having an entrance and an exit aperture;
5 a pair of opposing input rollers located at the entrance to the pre-compression chamber, at least one of the rollers provided with rotational drive for advancing slipsheets into the pre-compression chamber;
a moveable plunger operable to sweep a volume of the
10 pre-compression chamber between the entrance and the exit aperture.
2. A slipsheet compactor according to claim 1, wherein the pre-compression chamber has a transverse cross section that is inwardly tapered towards the exit aperture.
- 15 3. A slipsheet compactor according to claim 1, wherein the pre-compression chamber comprises a pair of spaced apart guides defining a passageway having an entrance at one end thereof and defining the exit aperture at the other end thereof, the passageway inwardly tapered at least in a portion in proximity to the exit aperture.
- 20 4. A slipsheet compactor according to claim 3, wherein the plunger comprises a plurality of outwardly extending fingers and at least one of the guides has corresponding channels for intermeshing with the fingers.
- 25 5. A slipsheet compactor according to claim 3, wherein the plunger comprises a plurality of outwardly extending fingers and at least one of the input rollers has corresponding channels in the surface thereof for intermeshing with the fingers.

6. A slipsheet compactor according to claim 5, wherein the fingers are arranged to remain generally tangential to the surface of the at least one input roller as the plunger is swept past the at least one input roller.
- 5 7. A slipsheet compactor according to claim 3, wherein the plunger comprises a central backbone with plurality of fingers extending outwardly from either side of the backbone.
8. A slipsheet compactor according to claim 7, wherein the fingers
10 are angled forwardly with respect to the backbone.
9. A slipsheet compactor according to claim 7, wherein the fingers on one side of the backbone are disposed to contact one of the pair of spaced apart guides and the fingers on the other side of the backbone
15 are disposed to sequentially contact each of the input rollers and the other one of the pair of spaced apart guides during the sweeping of the pre-compression chamber.
10. A slipsheet compactor according to claim 4, wherein the plunger
20 is flexible.
11. A slipsheet compactor according to claim 10, wherein the plunger comprises a rigid backbone supporting a flexible face.
- 25 12. A slipsheet compactor according to claim 11, wherein the rigid backbone comprises finger support portions extending at least part way along each of a plurality of the fingers.
13. A slipsheet compactor according to claim 1, comprising a mechanism
30 configured to sweep the plunger through the pre-compression chamber along a curved path.

14. A slipsheet compactor according to claim 1, wherein at least one of the input rollers is faced with a compliant material.

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15. A slipsheet compactor according to claim 1, wherein each of the opposing input rollers is provided with a rotational drive and the drive is adapted to drive each of the input rollers at rates such that a surface speed at the peripheral surface of each roller is substantially equivalent.

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16. A slipsheet compactor according to claim 1, wherein at least one of the input rollers comprises a plurality of roller units longitudinally arrayed to provide a roller surface.

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17. A slipsheet compactor according to claim 1, wherein the pre-compression chamber has a longitudinal width greater than a width of the slipsheet.

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18. A slipsheet compactor according to claim 16, wherein the pre-compression chamber extends between a pair of end plates located at longitudinal ends thereof.

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19. A slipsheet compactor according to claim 1, comprising a guide wheel located in proximity to the input rollers outside the pre-compression chamber.

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20. A slipsheet compactor according to claim 1, wherein at least one of the input rollers is moveable to open the entrance to the pre-compression chamber.

21. A slipsheet compactor according to claim 1, wherein a first one of the input rollers has an arc length exposed in the pre-compression chamber longer than an exposed arc length of a second one of the input rollers.

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22. A slipsheet compactor according to claim 21, wherein the first one of the input rollers has a coefficient of friction lower than a coefficient of friction of the second one of the input rollers.

10 23. A method for compacting a slipsheet, the method comprising:
removing the slipsheet from an imaging media;
pre-compressing the slipsheet;
further compressing the slipsheet; and
ejecting the slipsheet.

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24. A method according to claim 23, wherein the step of pre-compressing operates on only one slipsheet at a time.

20 25. A method according to claim 23, wherein the step of pre-compressing operates on a plurality of slipsheets at a time.

26. A method according to claim 23, wherein pre-compressing the slipsheet comprises guiding the slipsheet into a pre-compression chamber.

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27. A method according to claim 26, wherein guiding the slipsheet into the pre-compression chamber comprises passing the slipsheet between counter rotating rollers.